

## REMARKS

Claims 1, 3-11, 13, 25 and 27-39 are pending in this application, and these claims are rejected by the Office action dated December 18, 2003. By this Amendment, applicants have requested that claims 1, 7, 10, 27, 31 and 38 be amended, and that claims 28-30 be canceled without prejudice, to place this application in condition for allowance.

### **I. Claim Rejections under 35 U.S.C. § 112**

Claims 28-29 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Claim 30 also is rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicants traverse these Section 112 rejections.

The Office action states that chromatophores entrapped in beads and then encapsulated with polymers do not comprise cartridges or sealed containers. Applicants disagree. For example, with respect to the term container, chromatophores deposited onto beads, and thereafter sealed within a polymer material, are thereby in a "sealed container". Applicants consider certain embodiments of beads to include sealed containers and cartridges.

The patent laws do not require a one-to-one word correspondence between terms in the claims and those used in the specification. As a result, applicants believe that the Section 112 rejections of claims 28-30 are improper.

Nevertheless, solely to facilitate prosecution of the present application, applicants have amended independent claim 1 to include the term "beads," and have canceled rejected claims 28-30, without prejudice.

## **II. Claim Rejections under 35 U.S.C. § 102**

Claims 37 is rejected as allegedly being anticipated by Elving or Lerner under 35 U.S.C. § 102(b). Applicants traverse this rejection and request that it be withdrawn.

Applicants disagree that Elving or Lerner anticipates claim 37. Claim 37 includes a “scalar optical change” feature. The documents cited against the present application disclose methods that rely simply upon visually detectable changes. Certain embodiments of the present invention utilize scalar numbers to provide a more definite and useful result. A scalar term is a quantity, such as mass, length, time or temperature, that is completely specified by a number on an appropriate scale. See, Webster’s II New Riverside University Dictionary. The methods disclosed by the cited documents do not use scalar terms, but instead utilize subjective evaluations that are made by an individual. This subjective description can vary from individual to individual. Because claim 37 recites using scalar terms, and because neither Elving nor Lerner teaches using scalar terms, the embodiment of the present invention recited in claim 37 is not anticipated by these documents.

Moreover, claims that include the “scalar” feature also are non-obvious over the cited documents. The use of scalar terms provides an advantage that is not taught or suggested by such documents.

## **III. Claim Rejections under 35 U.S.C. § 103**

Claims 1, 3-9, 11, 13, 25, 27-29 and 33-39 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Elving and/or Lerner. Applicants traverse this rejection, and request that it be withdrawn.

The Office action first admits that the cited documents do not specifically teach using

chromatophores in capsules. Applicants agree. The cited references also do not teach using beads as currently recited in independent claims 1 and 38. Furthermore, as discussed in applicants' prior response with respect to "capsules", beads provide an important improvement in the overall method being claimed. As a result, applicants continue to assert that the use of beads is not obvious in view of the documents cited against this application.

The Office action also states that the references use titer wells, and that these titer wells are the same as capsules. Applicants disagree that titer wells are the same as capsules. Furthermore, the claims as currently written do not recite capsules, but do recite using beads. Beads clearly are not the same as titer wells. The obviousness rejection therefore is improper, and should be withdrawn.

On page 6, the Office action states that "Lerner teaches that the pigment cells may be chromatophores, melanophores, or erythrophores", citing to col. 3 line 18-21. On page 7, the Office action states that "Lerner specifically teaches that melanophores and/or erythrophores may be used in the methods." Applicants disagree that Lerner teaches using the combination of melanophores and erythrophores. The only reference to erythrophores applicants find in the entire '856 patent is at column 3, lines 20-21, which discusses examples of pigment cells that can be used to practice the disclosed technology. This passage does not say that combinations of these materials can be used. Thus, applicants disagree with the Examiner's conclusion that the prior art teaches using combinations of melanophores and erythrophores.

Furthermore, nothing in the cited documents teaches the beneficial and superior results that can be obtained when using both melanophores and erythrophores in combination. The cited documents do not teach using two types of chromatophores, such as melanophores and erythrophores, in combination, and further do not appreciate the superior results that are obtained when such cells are

used in combination. Applicants therefore reassert that claims of the present application that recite using a combination of chromatophores, particularly melanophores and erythrophores, such as claims 7, 10 and 38, are non-obvious in view of the cited documents.

At page 7, the Office action also states that the references do not teach methods using Betta chromatophores. Applicants agree. The Office action then asserts that it is well known that Betta have chromatophores. Despite whether this assertion is true, the issue is not whether Betta have chromatophores. Instead, the issue is whether a person of ordinary skill in the art, having a plethora of species from which to select chromatophores, would have been motivated to select Betta chromatophores. As discussed in the present specification, Betta chromatophores provide superior results for practicing the disclosed methods relative to other known chromatophores. The cited documents do not teach using Betta chromatophores in the method claimed in the present application. Applicants also assert that nothing in such documents suggests to a person of ordinary skill in the art to select Betta chromatophores as opposed to any other type of chromatophore. As a result, the claimed method is non-obvious in view of the cited references.

On page 7, the Office action also states that the cited documents do not teach embodiments of the claimed method wherein the detection is computer aided. Again, applicants agree. However, the Office action then asserts that it would have been obvious to use computer aided detection to practice the claimed method. This conclusion is incorrect for several reasons.

First, if computer aided methods had been obvious, Lerner and Elving should expressly have taught using computer aided detection in the method disclosed by those documents. Lerner, for example, issued in 1995. Computers were generally known in 1995, but Lerner did not teach or suggest using computer aided detection.

Second, solely for purposes of argument and without making any admissions, while it may have been obvious to try to use computer aided detection with the present method, obvious to try is not the appropriate standard for determining obviousness. For example, and again solely for purposes of argument, while it may be obvious to consider the possibility of using computer aided detection, the detection methods must somehow be amenable to computer analysis. Lerner and Elving teach purely subjective analyses. Subjective analyses are difficult to implement using computer aided detection. Instead, a scalar detection analysis, as is first disclosed in the present application, is best suited for computer aided detection. For this additional reason, applicants assert that claims of the present application that include computer aided detection features are not obvious in view of the documents cited against the present application.

Claims 1, 3-4, 6-11 and 33-39 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Lerner in view of Kotz. Applicants traverse this rejection and request that it be withdrawn.

On page 9, the Office action asserts that Lerner does not teach using chromatophores. Applicants agree. The Office action then asserts that test kits which contain titer wells should be considered capsules. Applicants disagree.

The claims as amended herein recite beads. Titer wells are not the same as capsules. But, regardless of the conclusion as to whether a capsule is the same as a titer well, a titer well certainly is not a bead. The basis asserted in the Office action for concluding that the rejected claims are obvious therefore does not apply to the claims as amended herein, and the rejection therefore should be withdrawn.

The Office action thereafter asserts that Lerner does not teach both erythrophores and melanophores in combination, and again applicants agree. And, even though Lerner may teach that

melanophores or erythrophores may be used, this is not the same as appreciating that superior results are obtained when the combination of the two are used. As a result, the claimed embodiments that recite using first and second types of chromatophores, such as using both melanophores and erythrophores, are non-obvious over Lerner in view of Kotz.

The Office action further asserts that Lerner does not teach the method wherein the chromatophores are Betta chromatophores. Applicants addressed the use of Betta chromatophores above. For the reasons stated above, the claims should not be rejected for obviousness in view of Lerner.

The Office action also states that the method of claim 10 for identifying calcium channel blockers is obvious in view of the combination of Lerner and Kotz. Applicants respectfully disagree. Lerner does not teach using a combination of both melanophores and erythrophores in the same analysis. Second, Lerner provides no teaching or discussion concerning calcium channel blocker detection. Third, nothing in Kotz would lead one to conclude that the combination of both melanophores and erythrophores would be a good combination to detect a calcium channel blocker. According to Kotz, there is no response to melanophores of school fish when melanophores are exposed to extra cellular calcium ion.

Claims 1, 3-9, 11, 13, 25 and 27-39 are rejected as allegedly being obvious over Elving and/or Lerner in view of Paul. Applicants traverse this rejection, and request it to be withdrawn.

On page 12, the Office action states that the references do not specifically teach chromatophores and capsules. Applicants have amended the claims to recite "beads". For the reasons stated above, these claims are not obvious in view of the references cited against the present application. The addition of Paul may teach using beads, but Paul does not teach the remaining

features of the rejected claims.

Page 12 of the Office action also states that Lerner does not specifically teach using melanophores and erythrophores in combination. Applicants have addressed this above, and therefore request that the rejection of the claims in view of the suggestion that Lerner does teach the combination be withdrawn.

On page 13, the Office action states that the references do not teach using Betta chromatophores. This also has been addressed above.

The present application in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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